Strawberry consumption may reduce dementia risk for middle-aged individuals, study suggests

November 1 2023

Credit: Pixabay/CC0 Public Domain

New research from the University of Cincinnati has found that daily strawberry consumption could help reduce the risk of dementia for

certain middle-aged populations.

The research was recently published in the journal *Nutrients*.

In 2022, UC's Robert Krikorian, Ph.D., and his team published research that found adding blueberries to the daily diets of certain middle-aged populations may lower the chances of developing late-life dementia. He said the current research into strawberries is an extension to the blueberry research.

"Both strawberries and blueberries contain antioxidants called anthocyanins, which have been implicated in a variety of berry health benefits such as metabolic and cognitive enhancements," said Krikorian, professor emeritus in the UC College of Medicine's Department of Psychiatry and Behavioral Neuroscience. "There is epidemiological data suggesting that people who consume strawberries or blueberries regularly have a slower rate of cognitive decline with aging."

In addition to containing anthocyanins, Krikorian said strawberries contain additional micronutrients called ellagitannins and ellagic acid that have been associated with health benefits.

About 50% of individuals in the U.S. develop insulin resistance, commonly referred to as prediabetes, around middle age, which has been shown to be a factor in chronic diseases. Krikorian said the metabolic and cardiovascular benefits of strawberry consumption have been studied previously, but there were relatively few studies on its cognitive effects.

"This study assessed whether strawberry consumption might improve cognitive performance and metabolic health in this population, and if so, whether there might be an association between cognitive enhancement and reduced metabolic disturbance," he said.

A total of 30 overweight patients between 50-65 years old with complaints of mild cognitive decline were enrolled and completed the study. Krikorian said this population has an increased risk for late-life dementia and other common conditions.

Over a period of 12 weeks, the participants were asked to abstain from berry fruit consumption of any kind except for a daily packet of supplement powder to be mixed with water and consumed with breakfast. Half of the participants received powders that contained the equivalent of one cup of whole strawberries (the standard serving size), while the other half received a placebo.

The participants were given tests that measured certain cognitive abilities like long-term memory. The researchers also tracked their mood, intensity of depressive symptoms and metabolic data over the course of the study.

Those in the strawberry powder group had diminished memory interference, which is consistent with an overall improvement in executive ability.

"Reduced memory interference refers to less confusion of semantically related terms on a word-list learning test," Krikorian said. "This phenomenon generally is thought to reflect better executive control in terms of resisting intrusion of non-target words during the memory testing."

The strawberry-treated participants also had a significant reduction of depressive symptoms, which Krikorian said can be understood as a result from "enhanced executive ability that would provide better emotional control and coping and perhaps better problem-solving."

Other strawberry studies have found improvement in metabolic

measures including lower insulin, but there was no effect found on the patients' metabolic health in this study.

"Those studies generally used higher dosages of strawberry powder than in our research, and this could have been a factor," Krikorian said.

While more research is needed, Krikorian said the strawberry treatment may have improved cognitive function by reducing inflammation in the brain.

"Executive abilities begin to decline in midlife and excess abdominal fat, as in insulin resistance and obesity, will tend to increase inflammation, including in the brain," he said. "So, one might consider that our middle-aged, overweight, prediabetic sample had higher levels of inflammation that contributed to at least mild impairment of executive abilities. Accordingly, the beneficial effects we observed might be related to moderation of inflammation in the strawberry group."

Moving forward, Krikorian said future research trials should include larger samples of participants and differing dosages of strawberry supplementation.

More information: Robert Krikorian et al, Early Intervention in Cognitive Aging with Strawberry Supplementation, *Nutrients* (2023). DOI: 10.3390/nu15204431

Provided by University of Cincinnati

individuals.html